WebLearn 5 Guide

November 2008
## Contents

1 **WebLearn Module banks** .......................................................................................................................................................... 3
1.1 Definitions and explanations .................................................................................................................................................. 3
1.2 WebLearn markup ................................................................................................................................................................. 4
1.2.1 Multiple Choice ............................................................................................................................................................... 5
1.2.2 Dropdown ............................................................................................................................................................................ 6
1.2.3 Short text ............................................................................................................................................................................ 8
1.2.4 Long text ............................................................................................................................................................................ 9
1.2.5 Numeric ............................................................................................................................................................................. 10
1.2.6 Maple ................................................................................................................................................................................ 11
1.2.7 Random variables .......................................................................................................................................................... 12
1.2.8 Feedback using the Response tag .................................................................................................................................. 13
1.3 Inserting dynamically generated graphs .............................................................................................................................. 15
1.4 WebLearn markup summary .................................................................................................................................................. 16
1.5 Creating a Module bank ....................................................................................................................................................... 17
1.5.1 Step 1 - Open the Module Admin page .......................................................................................................................... 17
1.5.2 Step 2 - Adding a module ............................................................................................................................................... 18
1.5.3 Step 3 - Adding a question ............................................................................................................................................. 19
1.5.4 Step 4 - Changing the question NUM, adding additional questions ............................................................................. 19
1.5.5 Step 5 - Validating the module bank ................................................................................................................................ 20
1.5.6 Step 6 - Adding Objectives Labels .................................................................................................................................. 23
2 **WebLearn's Testing system** .................................................................................................................................................. 24
2.1 Key attributes to a test ............................................................................................................................................................ 24
2.1.1 Summative/Formative tests ............................................................................................................................................. 24
2.1.2 Date Window and Expiry ............................................................................................................................................... 25
2.1.3 Pass/Fail Test, Number of attempts .................................................................................................................................. 25
2.1.4 Non Passfail .................................................................................................................................................................... 25
2.1.5 Live/Dev Status ............................................................................................................................................................... 26
2.1.6 Titles and Description ....................................................................................................................................................... 26
2.1.7 Group Control ............................................................................................................................................................... 26
2.1.8 Test Requirements/hurdles ............................................................................................................................................. 26
2.1.9 Marking Modes ............................................................................................................................................................... 27
2.1.10 Selecting Questions ...................................................................................................................................................... 27
3 **Tutorial** .................................................................................................................................................................................. 28
3.1 Step 1 - page 1, test type, status, attempts.......................................................................................................................... 29
3.2 Step 2 - group control, requirements .................................................................................................................................. 31
3.3 Step 3 - question ordering, marking mode ............................................................................................................................. 31
3.4 Step 4 - specifying questions ............................................................................................................................................... 33
3.5 Step 5 - specifying totals ..................................................................................................................................................... 33
3.6 Step 6 - pass mark (optional), initial control and marking .................................................................................................. 34
4 **Test Control and Marking** .................................................................................................................................................. 35
4.1 Automatic marking ............................................................................................................................................................... 35
4.2 Marking expired, or late test submissions ............................................................................................................................ 36
4.3 Manual marking ...................................................................................................................................................................... 36
5 **One Question At a time** ....................................................................................................................................................... 39
5.1 Background ............................................................................................................................................................................. 39
5.2 Simple configuration - Single Attempt .................................................................................................................................. 40
5.3 Student view ........................................................................................................................................................................... 41
5.4 Multiple attempts ................................................................................................................................................................. 42
5.5 Student view ........................................................................................................................................................................... 43
5.6 Manual marking ................................................................................................................................................................. 45
6 **Tabs functionality** ................................................................................................................................................................. 46
6.1 Introduction ............................................................................................................................................................................ 46
6.2 Tutorial .................................................................................................................................................................................. 46


1 WebLearn Module banks

1.1 Definitions and explanations

Some important introductory information:

- Before you can begin to create a WebLearn test or quiz, you must first create a bank of questions.
- A bank is simply a collection of WebLearn questions, usually grouped under a common topic. Once the bank is present, it will then possible to specify the questions for use in a test or quiz.
- Module banks can be further divided into smaller units, called 'Objectives'.
- When creating a test or quiz, questions are not directly selected. Instead you specify the number of questions that are to be used. This specification occurs at the objective level, or across a range of specified Modules.
- A WebLearn question consists of collection of tags that defines its type, number, and behavior.

The following describes a typical arrangement of a module bank. In this case it covers basic introductory maths material:

Figure 1: Module bank containing 13 questions separated into three objectives.

Within a bank, each question must be uniquely identified by its own ID. The ID consists of the moduleID, objectiveID and questionID separated by the period character '.

In the case of the module bank shown above, the question numbering would be: 1.1.1, 1.1.2, 1.1.3, 1.1.4, 1.1.5, 1.2.1, 1.2.2, 1.2.3, 1.2.4, 1.3.1, 1.3.2, 1.3.3, 1.3.4.
1.2 WebLearn markup

WebLearn questions consist of text markup that define its behavior and organization. (Typically questions are created with a text editor, although the current version of WebLearn also includes a means to rapidly create questions without the need to manually add each tag).

Here is an example of a simple WebLearn question:

```
<QUESTION NUM="1.1.1" TYPE="Multiple Choice">
<ASK>This is a Multiple choice question</ASK>
<CHOICE A>This is correct</CHOICE>
<CHOICE B>This is NOT correct</CHOICE>
<CHOICE C>Add text here</CHOICE>
<CHOICE D>Add text here</CHOICE>
<CHOICE E>Add text here</CHOICE>
<ANSWER>A</ANSWER>
<RESPONSE WRONG>That choice is not correct</RESPONSE>
<RESPONSE CORRECT>That choice is correct</RESPONSE>
</QUESTION>

WebLearn supports seven basic question types:

- Multiple Choice
- Multiple Answer
- Dropdown
- Short Text
- Long Text
- Numeric
- Maple

HTML may be used in any tags that render text to the end user.
1.2.1 Multiple Choice

A multiple choice question consists of multiple alternative choices for a proposed problem. Only one is correct.

Example WebLearn question code

```xml
<QUESTION NUM="1.1.1" TYPE="Multiple Choice">
<ASK>
This is a Multiple choice question, where each choice appears in the same position each time it is generated. Only one choice is correct. Example:
</ASK>
<CHOICE A>This is the first choice. It is \textbf{not} correct</CHOICE>
<CHOICE B>This is the second choice. It is \textbf{not} correct</CHOICE>
<CHOICE C properties="fixed">This is the third choice. It is \textbf{not} correct</CHOICE>
<CHOICE D>This is the fourth choice. It is \textbf{not} correct</CHOICE>
<ANSWER>B</ANSWER>
<RESPONSE WRONG>That choice is not correct</RESPONSE>
<RESPONSE CORRECT>That choice is correct</RESPONSE>
<RESPONSE CONDITION="D">You selected D</RESPONSE>
</QUESTION>

Student view

![Multiple choice question interface](image)

Figure 2: Sample multiple choice question.

To define a Multiple Choice question, the \texttt{TYPE} should be set to \texttt{Multiple Choice}. i.e:

```xml
<QUESTION NUM="1.1.1" TYPE="Multiple Choice">

A multiple choice question consists of an ASK tag which describes the question, at least two \texttt{CHOICE} tags, and an \texttt{ANSWER} tag. Up to 26 choice tags are supported. It is possible to randomly shuffle the display order of choices by using the optional additional type qualifier of Dynamic. (This keyword will have no effect on other types of questions.)

i.e: \texttt{<QUESTION NUM="1.1.1" TYPE="Multiple Choice Dynamic">}

The \texttt{<CHOICE>} tag consists of the following:

```xml
<CHOICE [A-Z] properties="fixed|normal">[Text that describes the choice]</CHOICE>
```

i.e: \texttt{<CHOICE A>This is the first choice. It is \textbf{not} correct</CHOICE>}

The properties attribute is optional. It is used to prevent a choice from being shuffled.

\texttt{<CHOICE D properties="fixed">None of the above</CHOICE>}
```
WebLearn question code

<QUESTION NUM="1.1.1" TYPE="Multiple Answer Dynamic">
<ASK>This is a Multiple answer dynamic question, where each choice is shuffled each time it is viewed. More than one choice can be correct. Example:</ASK>
<CHOICE A>T</CHOICE>
<CHOICE B>This is <b> NOT </b> correct</CHOICE>
<CHOICE C>Add text here</CHOICE>
<CHOICE D>Add text here</CHOICE>
<CHOICE E>Add text here</CHOICE>
<ANSWER>A</ANSWER>
<RESPONSE WRONG>That choice is not correct</RESPONSE>
<RESPONSE CORRECT>That choice is correct</RESPONSE>
<RESPONSE CONDITION="D">You selected D</RESPONSE>
</QUESTION>

Rendered view

![Sample multiple answer dynamic question](image)

Figure 3: Sample multiple answer dynamic question.

To define a Multiple Answer question, the **TYPE** should be set to **Multiple Choice**.

i.e: `<QUESTION NUM="1.1.1" TYPE="Multiple Answer">

A multiple choice question consists of an ASK tag which describes the question, at least two <CHOICE> tags, and an <ANSWER> tag. Up to 26 choice tags are supported.

It is possible to randomly shuffle the display order of choices by using the the optional additional type qualifier of 'Dynamic'. (this keyword will have no effect on other types of questions)

i.e: `<QUESTION NUM="1.1.1" TYPE="Multiple Answer Dynamic">

The **<CHOICE>** tag consists of the following:

<CHOICE [A-Z] properties="fixed|normal">[Text that describes the choice]</CHOICE>

i.e: `<CHOICE A>This is the first choice. It is <b> not </b> correct</CHOICE>

The properties attribute is optional. It is used to prevent a choice from being shuffled.

i.e: `<CHOICE D properties="fixed">None of the above</CHOICE>

The **<ANSWER>** tag should consist of the list of correct selections, separated with a comma.

i.e: `<ANSWER>B, C</ANSWER>

1.2.2 Dropdown

A dropdown question consists of one or more dropdown lists containing predefined text options. In general these lists are used to provide alternative words in a given statement.
WebLearn question code

<QUESTION NUM="1.1.1" TYPE="dropdown">
  <ASK>
    Superficial anatomy or <DROPDOWN NAME="name1" SHUFFLE="TRUE" VALUES="surface,deep,horse,insect" /> anatomy is important in anatomy being the study of anatomical <DROPDOWN NAME="name2" SHUFFLE="TRUE" VALUES="landmarks,bits,books,gross things" /> that can be readily seen from the <DROPDOWN NAME="name3" SHUFFLE="TRUE" VALUES="ticklish parts,flat parts,contours" /> of the surface of the body. With knowledge of superficial anatomy, physicians or veterinary surgeons gauge the position and anatomy of the associated deeper structures.</ASK>
  <ANSWER>surface,landmarks,contours</ANSWER>
  <RESPONSE CONDITION="name1:horse">You selected Horse for the first dropdown.</RESPONSE>
</QUESTION>

Student View

Figure 4: Sample dropdown question.

Dropdown tag

The dropdown lists are defined by using the <DROPDOWN> tag. This consists of:

<DROPDOWN NAME="name" SHUFFLE="TRUE|FALSE" VALUES="value1,value2,value3,value4..." />

NAME is used to identify the control, SHUFFLE is used to control how the list appear.

- If true, then the list items will be randomly shuffled each time the question is generated.
- If FALSE, then it will appear as static list. VALUES contains the list of items.

i.e: <DROPDOWN NAME="name1" SHUFFLE="TRUE" VALUES="surface,deep,horse,insect" />

The <ANSWER> tag should contain the list of correct answers, separated by commas.

i.e: <ANSWER>surface,landmarks,contours</ANSWER>
1.2.3 Short text

A short text question matches predefined words with user input. This can be a single word or phrase (although using a phrase is more problematic, since there is more room for user error and typographical mistakes) or multiple inputs.

WebLearn question code

<QUESTION NUM="1.1.1" TYPE="Short Text">
<ASK><b>Short Text questions</b></ASK>
<p>Short text questions expect a single text answer. This can be a single word, or sentence. Multiple answers can be specified.</p>

Example:

Grass can be: <prompt name="answer1" /> or <prompt name="answer2" />
</ASK>
<ANSWER>green,brown</ANSWER>
<RESPONSE WRONG>No, you will need to think again.</RESPONSE>
</QUESTION>

Student View:

![Figure 5: Sample short text question.](image)

prompt tag

To insert a text box into the ASK, the WebLearn markup <prompt> is used. The format of the prompt tag is:

<PROMPT name="name1" maxlength="10" size="10" />

maxlength determines the allowed length of text input, while size controls how wide the field is. The name is used to provide a unique identifier, and is needed for such functions as specific feedback. (This topic will be examined in the next section)

There is no limit to the number of text fields that can be created.

To provide an answer, all correct answers are added, separated by commas. For example, in the above question:<ANSWER>green,brown</ANSWER>
1.2.4 Long text

A long text question allows for much longer text input. This would be used for code, or essay type questions. The system does NOT attempt to automatically mark these type of questions.

A course leader or staff user will need to manually mark each student response.

WebLearn question code:

<QUESTION NUM="1.1.1" TYPE="Long Text">
<ASK>Long text questions are not marked by the WebLearn automatic marking script. They are marked by teaching staff</ASK>
</QUESTION>

Student View

Figure 6: Sample long text question.

As mentioned in the introduction, Long text questions are not marked by WebLearn automatically. They require manual intervention. This manual marking is done by going to the student admin page, and selecting the test in the search list. That will be discussed in the 'Marking' section.

Note that the <answer> tag is not generally used to long text, but it can be used to provide a marking guide, since it will be displayed only when the question is marked manually.

<ANSWER>Guide for manual marking</ANSWER>
1.2.5 Numeric

A numeric question matches user entered text input with a numerical value.

WebLearn question code

```xml
<QUESTION NUM="1.1.1" TYPE="Multiple Choice">
  <ASK>What is 10 plus 10?</ASK>
  <ANSWER>10,1%</ANSWER>
  <RESPONSE WRONG>That choice is not correct</RESPONSE>
  <RESPONSE CORRECT>That choice is correct</RESPONSE>
</QUESTION>
```

Student View:

![Sample numeric question](image)

Figure 7: Sample numeric question.

As in short text questions, to add additional text input fields, the `<prompt>` tag is used. Note that there is an additional component that is added to the answer tag that will control the tolerance of the answer. This is either a single numerical value, or a percentage.
1.2.6 Maple

Maple is a general-purpose commercial computer algebra system. It uses its own symbolic language.

A WebLearn Maple question takes user input using the `<prompt />` tag (as was discussed in, and inserts it into user created maple code before sending it to the Maple interpreter in the WebLearn system. It is evaluated, and is either correct or incorrect. The user created maple code contains tokens, or variables. Those tokens are substituted for the user input when the question is submitted. The name of the prompt must match the token name. The maple code is put in the ANSWER section of the question.

WebLearn question code

```xml
<QUESTION NUM="1.2.4" TYPE="Maple">

<ASK>
A maple question passes allows you to trap the user input, and pass it to a maple interpreter On the WebLearn server. What is 12 plus 14?<br>Your answer should be an exact real number.

<PROMPT name="input" size="8" /></ASK>

<ANSWER>A:=$input:Ans:=(12+14): is (A=Ans)</ANSWER>

</QUESTION>
```

Student View

![Sample maple question](image.png)

Figure 8: Sample maple question.
1.2.7 Random variables

One interesting feature of WebLearn questions is the ability to add randomized fields to questions. Randomized fields allow you to make questions more dynamic, and will mean that the student will not see the same question twice.

WebLearn supports two types of random variables, randomly selected numbers in a range, and randomly selected items in a list. You 'declare' these variables by using the keyword `<EQN />

EQN has the following format:

```<EQN $variable = function()>
```

Where function is either:

- `rand (start,end,step)`
- `list(item1,item2,item3,item4,item5,item6,item7,...)`

Where start, end and step are numerical values, and Item1 is either numerical or text.

```<QUESTION NUM="1.2.4" TYPE="Maple">
<EQN $a=rand(1,100,1)>
<EQN $b=list(2,4,11,13,17,19)>
<ASK>
A maple question passes allows you to trap the user input, and pass it to a maple interpreter on the WebLearn server. What is `<CALC>$a</CALC>` plus `<CALC>$b</CALC>`<br>Your answer should be an exact real number.
<PROMPT name="input" size="8" /></ASK>
<ANSWER>A:=$input:Ans:=(A+$b): is (A=Ans)</ANSWER>
</QUESTION>
```

For the above question if $a$ is 24, and $b$ is 13 and the user enters 108, Maple will be given the following to evaluate:

```
A:=108:Ans:=(24+13): is (A=Ans)
```

This will evaluate to 'false' and thus WebLearn will mark this question as incorrect.
1.2.8 Feedback using the Response tag

To provide feedback, the RESPONSE tag is used.

Four types of response are possible:

- Correct
- Wrong
- Condition
- Maple

The first three are discussed in detail here, and maple specific response is covered in a later section.

Correct

This is a general response that will be displayed when the user selects a CORRECT answer.

Example: `<RESPONSE CORRECT>This is correct</RESPONSE>`

Wrong

This is a general response that will be displayed when the user selects a WRONG answer.

Example: `<RESPONSE WRONG>This is incorrect</RESPONSE>`

Condition

The CONDITION attribute allows you to create more specific response. The format of the CONDITION attribute will change, depending on the question type.

The contents of the CONDITION string are either:

- A direct match with a specific input such as a letter choice, text string or numerical value.
- or
- % tolerance value.

The logical operator '| ' can be used to specify a series of possible conditions, while conditions with multiple answers, such as multiple answer or multiple short text are separated with commas.

For Multiple Choice (single answer possible)

`<RESPONSE CONDITION="A">You selected A</RESPONSE>`

This response will be displayed when choice A is selected.

`<RESPONSE CONDITION="A|B|C">You selected A or B or C</RESPONSE>`

This response will be displayed when choice A or B or C is selected.

For a multiple answer question:

`<RESPONSE CONDITION="A,B">You selected A and B</RESPONSE>`

This response will be displayed when choice A and B is selected.

`<RESPONSE CONDITION="A, (B|C)">You selected A and B or C</RESPONSE>`

This response will be displayed when choice A and B or C is selected.

If multiple `<RESPONSE CONDITION>` statements are matched, then they are displayed sequentially:

`<RESPONSE CONDITION="A">You selected A</RESPONSE>`
`<RESPONSE CONDITION="B">You selected B</RESPONSE>`
`<RESPONSE CONDITION="A,B,C">You selected A and B and C</RESPONSE>`
If the user selects A and B, then the following is displayed:

You selected A
You selected B

If the user selects A and B and C, then only the following is displayed:

You selected A and B and C

In the case of:

<RESPONSE CONDITION="A">You selected A</RESPONSE>
<RESPONSE CONDITION="B">You selected B</RESPONSE>
<RESPONSE CONDITION="C">You selected C</RESPONSE>
<RESPONSE CONDITION="D">You selected D</RESPONSE>
<RESPONSE CONDITION="A,B,C">You selected A and B and C</RESPONSE>

If the user selects A, B, C, D, then the following is displayed:

You selected A and B and C
You selected D.

For a numeric question:

<RESPONSE CONDITION="10.4">A value of 10.4 was entered.</RESPONSE>

This response will be displayed when a value of 10.4 is entered.

<RESPONSE CONDITION="2%">Value within 2% of the right answer.</RESPONSE>

This response will be displayed when a value that is within 2% of the right answer.

For a short text question with single text field:

<RESPONSE CONDITION="America">America was entered</RESPONSE>

This response will be displayed when a value of America is entered.

<RESPONSE CONDITION="America|Australia">America or Australia was entered.</RESPONSE>

This response will be displayed when a value of either America or Australia.

For a short text question with multiple text fields:

<RESPONSE CONDITION="America,Australia">You entered America and Australia.</RESPONSE>

This response will be displayed when America and Australia is entered.

<RESPONSE CONDITION="America,Australia|England">You have entered America and Australia or England.</RESPONSE>

This response will be displayed when America and Australia or England is entered.

<RESPONSE CONDITION="value1:Africa">You have entered Africa.</RESPONSE>

This response will be displayed when Africa is entered into the text prompt field with the name ‘value1’.
1.3 Inserting dynamically generated graphs

By using the existing dynamic variable creation that WebLearn allows, it is possible to make use of maple’s graphing abilities to produce Dynamic 2 and 3d graphs. This would provide an extra dimension to text based math questions.

Some examples of maple Plot commands:

```
plot(x^2, x=-10..10);
plot3d( cos(x) + y^2/2, x=-10..10, y=-2..2);
plot3d( [ r*cos(th), r*sin(th), cos(th)*sin(th) ], r = 0 .. 1, th = 0 .. 2*Pi, grid = [10,60], orientation=[100,25], shading=zhue, lightmodel=light2, style=patch);
```

The `<GRAPH>` tag is used by WebLearn to take these plot commands, create an image, and insert the image in the location of the graph tag.

```
<graph>cos(x) - ($B/$Y)*cos($A*x), x = -Pi..Pi</graph>
```

The contents of this tag would be send to the server (the variables $A$, $B$ and $Y$ first being evaluated), and maple would construct a graph, or plot. The graph tag text is then substituted with an image url of the maple generated image. The image URL is generated by combining the course, studentID, test or quiz ID, question number, and graph tag count. (there may be multiple `<graph>` tags in the same question)

There are 3 attributes for the graph tag:

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>type</td>
<td>2d or 3d (default is 2d)</td>
</tr>
<tr>
<td>width</td>
<td>The width in pixels of the plot</td>
</tr>
<tr>
<td>height</td>
<td>The height in pixels of the plot</td>
</tr>
</tbody>
</table>

Examples:

```
<eqn $a=rand(1,100,1)>
<eqn $b=rand(1,100,1)>
<graph type="3d" width="400" height="300">(cos(x) + y^2/$a) + $b, x=-10..10, y=-2..2</graph>
<graph type="2d" width="100" height="300"> (x^2)+$a, x=-10..10</graph>
```
## 1.4 WebLearn markup summary

<table>
<thead>
<tr>
<th>WebLearn Tag</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>&lt;QUESTION num=&quot;M.O.Q&quot; type=&quot;[type]&quot;&gt;</code></td>
<td>Applicable to all questions. Mandatory.</td>
<td><code>&lt;QUESTION num=&quot;1.1.1&quot; type=&quot;Multiple Choice&quot;&gt;</code></td>
</tr>
<tr>
<td><code>&lt;ASK&gt;&lt;/ASK&gt;</code></td>
<td>Applicable for all questions. Mandatory.</td>
<td><code>&lt;ASK&gt;Hello there&lt;/ASK&gt;</code></td>
</tr>
<tr>
<td>`&lt;CHOICE A-Z PROPERTIES=&quot;fixed</td>
<td>normal&quot;&gt;`</td>
<td>Applicable to Multiple choice/Answer Mandatory. Inserts a choice.</td>
</tr>
<tr>
<td>`&lt;RESPONSE WRONG</td>
<td>CORRECT</td>
<td>CONDITION&gt;`</td>
</tr>
<tr>
<td><code>&lt;PROMPT name=...size=1...n ...maxlength=1...n /&gt;</code></td>
<td>Applicable to short text, numeric, maple Defines a user text entry box within the ASK tag.</td>
<td><code>&lt;prompt name=&quot;name1&quot; size=&quot;10&quot; /&gt;</code></td>
</tr>
<tr>
<td><code>&lt;EQN&gt;</code></td>
<td>Applicable to all questions. Optional Used to create random variables.</td>
<td><code>&lt;EQN $A = rand(1,100,1)&gt;</code> <code>&lt;EQN $B = list(1,3,55,90,102)&gt;</code></td>
</tr>
<tr>
<td><code>&lt;CALC&gt;&lt;/CALC&gt;</code></td>
<td>Applicable to all questions. Used to display or do further manipulation on variables</td>
<td><code>&lt;CALC&gt;$A+$B&lt;/CALC&gt;</code></td>
</tr>
<tr>
<td>`&lt;GRAPH type=[2d</td>
<td>3d]...width=...height=...[maple graph code]`</td>
<td>Applicable to all questions. Optional Used to insert maple graphs inside a question.</td>
</tr>
</tbody>
</table>
1.5 Creating a Module bank

There are three ways to construct a WebLearn module bank.

1. The WebLearn Editor. This is a standalone java application. It is available for PC here
2. A text editor, such as notepad.
3. In built WebLearn module creator.

We will be using the inbuilt module creator for this tutorial.

1.5.1 Step 1 - Open the Module Admin page

Start at the Module Admin page.

Figure 9: Weblean page with Module Admin button highlighted.
1.5.2 Step 2 - Adding a module

Click the Add button to see the following screen:

Figure 10: Add module screen.

Existing module details: This section shows the module ID's that are currently in use. If no modules are on the system, this will be blank.

Module Label: This is where the label for your module will go. You should make this something descriptive, as it will come in handy once you have a number of modules present. (When it comes time to select modules to use in a test or quiz, 'First law of thermodynamics' is more useful than 'Module 1')

Module Bank: This is where the module bank markup is added:

Figure 11: Example of where add module bank markup is added.
1.5.3 Step 3 - Adding a question

Select Multiple Choice and number of Choices is left at 5.

Tick both Add right/wrong response tags and Add exemplar text. Adding exemplar text will give you a set of default's that you can modify.

Click Add.

1.5.4 Step 4 - Changing the question NUM, adding additional questions

Change text m.o.q to, for example, "1.1.1". This numbering indicates that the question is part of module 1, objective 1, and question 1.

![Sample code for adding a question](image)

Figure 12: Sample code for adding a question.

Change the contents of the text within <ASK></ASK>, <CHOICE ...></CHOICE> to whatever you desire. This text can be plain or HTML text.

Move the cursor to the location directly AFTER the last #. (These three # characters are purely optional, and function only to separate one question from another.)

Click Add again. Notice that the NUM field has been incremented. The auto increment will reset when the objective numbering is changed as shown below.
1.5.5 Step 5 - Validating the module bank

Once you are happy with the module bank, you can validate it by clicking on the **Next** button. This will pass the bank through the bank validation process, and give you a summary.

Figure 13: Sample showing the NUM field increment.

Figure 14: Sample of auto increment code.

Figure 15: Sample summary from the bank validation process.
If there is a problem with a question, such as a malformed tag, you will see the following:

Figure 16: Sample summary from the bank validation process with a malformed tag.
Fix any errors before the module can be processed.

Once correctly processed, the Test Admin section is displayed.

Figure 17: Test Admin button and section.
1.5.6 Step 6 - Adding Objectives Labels

As a final step, you can provide labels for your objectives.

Click on the Edit button and you will see the following.

Figure 18: Module label, objectives and bank fields.

Enter your module labels in the provided text boxes.

Click the Next button, then click Add.

You have now successfully created a test module bank. (This process is identical for Quiz module banks.)
2 WebLearn's Testing system

A WebLearn test is a way of delivering WebLearn questions to students, for the purpose of formal assessment.

The process of creating a test involves defining:

- Live/Dev status - (Live is available to students, while Dev is not)
- Test labels and descriptions
- Start and stop times for when the test is available
- How long a user has to complete a test
- The number of attempts a user has
- What 'user groups' have access (visibility)
- Any other tests that need to be completed before this test is available (hurdles)
- Question ordering (random, sequential)
- Marking as deferred or immediate
- Finally, it must define the modules, and objectives that are to be used in the test.

2.1 Key attributes to a test

Before creating tests, it's important to be familiar with some of the key attributes, and how they will impact on the students and marking. Let's look at some of the more important ones.

2.1.1 Summative/Formative tests

WebLearn tests are broadly divided into two categories - Summative and Formative.

- **Summative test**: is designed to provide a level of formal assessment of a user, and their level of understanding of a concept or topic.
- **Formative test**: is used to help the user understand certain concepts, without necessarily applying any level of assessment such as a formal recorded mark. It is also designed to be linked to other tests, typically (but not necessarily) Summative tests.

As an example, a course leader might want to provide a number of formative test hurdles covering concepts that are present in the main summative assessment:

![Diagram showing formative tests and summative tests](image)

**Figure 19**: Diagram showing that formative tests must be passed before summative test can be opened.

In this example, formative tests 1, 2, and 3 must be passed before summative test 1 can be opened.
2.1.2 Date Window and Expiry

WebLearn tests have two mechanisms to control date release and testing times - date window, and expire time.

**Expire time:** This provides a method to control how long a user has to complete a test. If they take longer than this time, their submission will be identified as Expired, and not marked by WebLearn.

**Date Window:** This is the period which the test is available, and is called the start and end date in WebLearn. Before this period the test status will be shown as Before the start date, and after the end date it is called Closed. If used without an expire time, a user will be allowed the entire date window to complete a test attempt.

**IMPORTANT:** Users are not prevented from submitting tests, even if the date window or Expire time is passed.

This is done to cope with cases where users have submitted only a few seconds past the time period, or for cases of student illness.

2.1.3 Pass/Fail Test, Number of attempts

WebLearn tests can have two distinct was of dealing with the idea of test completion. The first mode requires that an actual pass mark be provided. This is called a pass-fail test. Pass fail tests also require an additional number of attempts field. This allows users a repeat attempt, should they fail the first one.

**IMPORTANT:** For pass-fail tests, if 5 attempts are allowed, then the user can have 5 attempts, irrespective of the pass status.

This means that if the user passes the test on the first attempt, they will still be allowed a further 4 attempts.

Care should be taken when configuring the number of attempts with the date window and expire time - the date window should be wide enough to permit total number of attempts of a given expire time.

For example, if the expire time is 1 day, and the allowed attempts is 10, the date window should be at least 10 days. The diagram below shows the difference between setting an expire time on the same 5 attempt test.

**Test with Date window and expire times**

- **Date window:** 1 jan - 10 jan, **Expire:** 1 hour, **Attempts:** 5
- **1 Jan:**
  - 1 hour
  - 1 hour
  - 1 hour
  - 1 hour
  - 1 hour
- **10 Jan**

**Test with Date window and NO expire times**

- **Date window:** 1 jan - 10 jan, **Expire:** None, **Attempts:** 5
- **1 Jan:**
  - 3 days
  - 20 min
  - 1 day
  - 5 min
  - 3 hours
- **10 Jan**

**Figure 20:** Test with Date window and expire and NO expire times.

**IMPORTANT:** The students final mark will be the HIGHEST achieved mark.

If they have 5 attempts, and have marks of 3,4,1,0,0 then the final mark will be 4.

2.1.4 Non Passfail

The other sort of test is called a non-passfail, or oneoff test. In this type of test, the test is considered complete when it is submitted - no pass or fail criteria is applied.
2.1.5 Live/Dev Status

The live/dev status is designed to provide a method by which a user can create a test, without releasing it to end users. This is possible because the Live/Dev status is bypassed when using the Try/Submit button. Setting a test from live to dev will immediately hide it from student view.

2.1.6 Titles and Description

The test title is the identifying label that gets displayed to the student. This should be large enough to provide the student with enough information to separate each test easily.

This is what the student sees when they are in the Student test page. (Note: that the testID is not shown to the student user.)

![Figure 21: Sample of what the student sees when they are in the Student test page.](image)

The Description is displayed at the top of the page, when the test attempt is opened:

![Figure 22: Sample of the description displayed at the top of the page.](image)

2.1.7 Group Control

Group Control allows you to make tests visible to some groups, and hidden to others. (By default all groups will be ticked)

2.1.8 Test Requirements/hurdles

This is how test Linking carried out. A requirement means a completed test.
2.1.9 Marking Modes

WebLearn supports two types of marking schemes - Immediate, and deferred (marking cycle).
Immediate means that the test will be marked as soon as the test is submitted.
Deferred allows you to postpone initial marking - you might want to do this in cases where you do not want students to see marked tests ahead of others in a classroom. The deferred marking has a control system allowing you to set marking on or off, for all or for individual groups.

2.1.10 Selecting Questions

WebLearn allows two ways to select questions in a test. Specified Objective, and Pool.

Specified Objective: The user specifies how many questions WebLearn will pick from each objective. For example, if an objective contains 10 questions, and the user specifies 4, then 4 will be picked at random from the 10. In this mode it is also possible to associate a mark for each specified objective. (All questions in that objective will have the same mark.)

Pool: The user simply selects modules to be included in a question pool.

Figure 23: Diagram of Specified and Pool module arrangements.
3 Tutorial

The Test Admin page

The test Admin page is shown below. If no tests are currently configured, you will see the following.

![Example of test Admin page.](image1)

In this case where tests have already been configured the view will look something like this.

![Example of test Admin page with a list of configured tests.](image2)
3.1 Step 1 - test type, status, attempts

Click the Add button. This will begin the test creation process.

- **Test type:** Choose the test type. For a pass fail summative test, select the first option.

  ![Test Type Selection Menu](image)

  **Figure 26: Test type selection menu.**

- **Status:** Select the test status.

  ![Test Status Selected](image)

  **Figure 27: Test status selected.**

- **Number of attempts:** Specify the number of attempts. If the test type is no-pass mark, then this field will not be visible. (It will default internally to 1 attempt). The maximum number of allow attempts is 10.

  ![Number of Attempts Selection](image)

  **Figure 28: Number of allowed attempts selection.**

- **Date window:** Specify the date window. Click on the calendar icon in the space adjacent to the date field. To increase the hour and minute fields, click on the field. To decrease it, hold down the control key and click.
Figure 29: Date window.

- **Expire time:** Initially this will be set to No. If you enter any values in the days, Hours, Minutes fields, the status will change to No.

Figure 30: Example of expired test.

- **Title:** This is what the student will see when they view the test.

Figure 31: Student view of the test.

- **Description:** Leave this field blank.

Figure 32: Blank description field.
3.2 Step 2 - group control, requirements

- **Group Control**: You must specify the list of groups that should have access to the test. The screenshot below shows the default WebLearn state of having no new user groups setup. Any user groups will be listed here.

![Group Control](image)

Figure 33: Default of no new user groups set up.

- **Test Requirements**: Lists any other tests that are currently created. If no tests are currently created, then 'N/A' will be shown.

![Test Requirements](image)

Figure 34: Test Requirements.

3.3 Step 3 - question ordering, marking mode

- **Question ordering**: This setting controls how questions are displayed to the student. The information note is clear as to the meaning of each setting.

![Question Ordering](image)

Figure 35: Sample of sequential question ordering.

- **Marking Mode**: Can be either Marking Cycle, or Immediate.
Figure 36: Marking Mode with Marking Cycle selected.

- **Other options**: Leave these to the default setting of selected.

Figure 37: Other options with the default setting of selected.
3.4 Step 4 - specifying questions

This is where modules and objectives are specified. For each module that is on the system, you will see a breakdown of the question types. It is also possible to preview the module.

For each module, the three selection options are:

- Do not select
- Add to question Pool
- Specify

![Figure 38: Option set to Specify.](image)

![Figure 39: Option set to Add to Question pool.](image)

3.5 Step 5 - specifying totals

For Specified Modules, You need to select how many questions to pick from each objective. Any modules that have been selected as Add to Question pool will be listed in the Pool Marks section. You must specify how many questions to pick from that pool.

![Figure 40: Number of questions from the pool specified.](image)

In this example:

- 20 questions will be selected.
- The Total mark will be: \((2 \times 1) + (2 \times 2) + (5 \times 3) + (1 \times 5) + 10 = 36\)
3.6 Step 6 - pass mark (optional), initial control and marking

If the test is initially defined as a pass-fail test, you will need to specify a pass mark. If the test is a non-passfail test, this field will not appear.

The test control and marking section will allow you to set the initial marking and locking status. If the test is locked, then the student will not have access to the test.

![Pass Mark](image)

![Test Control, Marking](image)

Figure 41: Example of both Locked and Unlocked status.

Click Create to create the test, and it will be immediately available. If the test creation is successful, you will see a screen showing a summary of the creation.

![Test Created](image)

Figure 42: Screen summary of creation.

The test is now created!
4 Test Control and Marking

4.1 Automatic marking

As previously mentioned, test marking is done in two ways. Automatic, and manual. In either system, the marking is done by WebLearn itself, using the answers provided in the &lt;ANSWER&gt; tag.

In automatic test marking, the test is marked either immediately, or by a marking script that runs in the background.

- In **immediate** marking, the user is shown the marked results of the test as soon as the test is submitted.
- In **delayed** marking, the test is marked off line, and the results will not be available until the marking script is run.

To manage offline marking, WebLearn provides a control page allowing you to switch off or on marking, as well as locking, and also visiblity. To access this page, go to test Admin &gt; test control.

It is also possible to control the marking script, so that one group of users does not receive results ahead of another group.

![Figure 43: Available groups and tests.](image)

The available groups are shown along the top, and tests on the left side, running down the page. There are three controls available for each test and group. Fields are represented with a familiar light switch, either on or off.

Tests marked immediately, do not have a marking control switch.

To turn on marking, locking (meaning that the test will be 'locked') and visibility for an entire group, you can click on the buttons 'on' or 'off' in the very first row of the control table.
4.2 Marking expired, or late test submissions

As previously mentioned, as part of the test configuration process two fields control how long a student has to take tests. A date window controls the period the test will be available, and an expire time, which is counted from the time the user opens the test.

On occasion, users will submit tests that are post one or both of these time frames. Most of the time, you will not need to take any action on this submissions, but there may be good cause for students to have missed these deadlines, including illness or problems with the delivery technology. In this case you will want to mark those submissions.

WebLearn provides a simple interface that will display all such submissions, and will allow selected ones to be marked.

Figure 44: Submissions and Marking Control

If the test is an immediately marked test, it will be marked immediately. If the test is marking cycle, it will be fed back into the marking cycle. Please note that if the marking control is off, the test will not be marked.

4.3 Manual marking

It is also possible to mark tests manually. This is used in two situations. Firstly, in cases where there is a question(s) that require overriding, or the question is of type 'Long'. To mark a test manually, you need to go to the Student search page, and search for the user that requires manual marking.

To open a test for a user, click on the image within the 'Tests' column:

Figure 45: Student and test result area.
Figure 46: Details of the status of the test submission.

This indicates the full status of the test submission, as well as a further field 'View' Click on the 'All' button. (If the test contained long text questions, you will have the option of viewing only the long text questions)

This will open the test, and will show the automatic marking status of each question, as well as controls that allow you to override (or cancel the override) the marks. Note that it does NOT update the database or results as yet.

Figure 47: Automatic marking status of a question.
For long text questions, there will be two additional fields, mark, and comments.

**Question 1 (10 marks) Attempt**

Comment on the US elections.

**Response was:**

According to CNN’s latest projections, Obama has 207 electoral votes and McCain has 135.

In order to win the presidential election, a candidate needs 270 electoral votes.

When asked if they saw a path to victory, two senior McCain aides said no.

Polls are closed in the key battleground states of Florida, North Carolina and Virginia, but the races there are too close to call.

**Question Answer**

Guide for manual marking

Enter Mark: 5 out of 10

Comments:

I like what you have done, but you need to work on the main thrust of the argument.

**Figure 48: Long text question and mark and comments fields.**

To update the marks, you need to click the 'Update Marks' page.

**Figure 49: Update marks page.**
5 One Question At a time

5.1 Background

In the WebLearn system, there are two methods of delivering questions in a test.

Method one, shows all questions in a long scrollable list. Users enter answers, then, submit the entire list for marking in one pass.

Method two, treats every question as a separate submission, and thus allows questions in a single test to be marked or submitted independently. Only one question is shown at a time. This has two advantages.

- It allows students to only re-attempt questions that they have failed:

![Diagram showing re-attempt of failed questions](image)

Figure 50: Students can re-attempt questions they have failed.

- It allows an improved display of very long questions, such as those that require long text responses, or multiple parts.

The following information details the process of setting up and submitting tests configured in this way.
5.2 Simple configuration - Single Attempt

The most straightforward configuration for this type of test, involves setting the attempt number to 1.

- Go to the test admin page.
- Click on the Add button.
- Select One Question at a time in the display option.

![Test admin page](image1)

**Figure 51: Test admin page.**

- Click the Next button.
- Set the Number of Allowed attempts per question to 1.

![Set number to 1](image2)

**Figure 52: Set number to 1.**

- Set the marking mode to immediate, on the next page.

![Set the marking mode to immediate](image3)

**Figure 53: Set the marking mode to immediate.**

- Continue with the rest of the test creation process, and create the test.
5.3 Student view

Assuming you are logged in as the course leader/staff user:

- Click on the **Student View->Tests** button
- View the **newly created test**, by scrolling down to the bottom of the page. If the newly created test is not visible, then ensure that your test has the staff group (99) selected as visible. (This is the default.)

![Newly created test](image)

**Figure 54: Newly created test.**

- Note the information under the **Details** section. It should be very similar to the above.
- Under display mode: the status should be set to **Single question at a time**, and marking mode should be set to **immediate**.
- Click on the **Take Test** button to see the following:

![Question and Status](image)

**Figure 55: Question and Status.**

The list of questions appears in the question list panel. In this case there are only 4 questions. To open a question, either click on the blue arrow adjacent to the question number, or use the Navigation bar. If you are at the first question, then no **Previous** button will be shown. Alternatively, if you are at the last question, the **Next** button will not be shown.
Looking at the question panel in more detail, you will notice the **Status** column. This will change, depending on the state of the question. The table below shows the available status values:

<table>
<thead>
<tr>
<th>Status</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>The question has not been opened yet</td>
</tr>
<tr>
<td>O</td>
<td>The question is open, but contains no answers</td>
</tr>
<tr>
<td>O*</td>
<td>The question is open, and contains un-submitted data</td>
</tr>
<tr>
<td>S</td>
<td>The question has been submitted, and it awaiting marking. (this will be for tests that are setup to me marking cycle, not immediate marking)</td>
</tr>
<tr>
<td>✔️</td>
<td>The question has been marked as correct. The Mark field should be updated</td>
</tr>
<tr>
<td>❌</td>
<td>The question has been marked as incorrect. The Mark field should be updated</td>
</tr>
<tr>
<td>❗️</td>
<td>The question was submitted without any answers. The Mark field should be updated</td>
</tr>
</tbody>
</table>

### 5.4 Multiple attempts

Tests can be configured as having more than one attempt per question. The advantage to this is that students need only re-attempt those questions they answered incorrectly, rather than having to repeat the entire test.

- Change the **number of attempts per question** field, on the second page of the test creation wizard.

![Figure 56: Number of attempts per question is set to 5.](image)

In this example the number is set to 5. This means that students will be able to re-attempt a question 5 times. After this, they will be blocked from further submission.
5.5 Student view

When the student opens a test with multiple attempts per question, the question panel will contain additional information:

![Question panel information](image)

**Figure 57: Question panel information.**

After a question has been submitted and marked, there will be two additional controls that allow the student to 're-try' the question.

- The re-try button: is located to the right of the attempt number. Clicking this will create a fresh attempt at a particular question.
- The previous attempts are shown underneath the current attempt. The smaller triangular button icons to the left of the attempt number will allow you to view the previous attempt.
- The column labelled **Best Mark** shows the highest achieved mark for a question, and is the one that will be used when calculating the total mark.
- The user can also click on the **Try Again** button in the middle of the navigation bar.
<table>
<thead>
<tr>
<th>Previous...</th>
<th>Try Again...</th>
<th>Next...</th>
</tr>
</thead>
</table>

Test Menu...

Figure 58: Try again button.
5.6 Manual marking

Manual marking of **One question at a time** tests is done via the student search page.

- Select the **user that requires manual marking**, and click on the **icon** on the test.

---

![Figure 59: Select user and test icon.](image)

- The manual marking page is displayed.

---

![Figure 60: Manual marking page.](image)

- Click the **Question** button (blue triangle) to open the question to be marked. (By default, the first question is shown.)
- Click **Submit** to use the automatic marking choice.
- Click the + icon next to the Mark Override Options, to override the answer. This will show the following:

---

![Figure 61: Override options.](image)

- Click the **submit** button to apply the settings in the override options.
6 Tabs functionality

6.1 Introduction

In many cases there are times when it would desirable to separate WebLearn tests, quizzes and assignments into categories or groups. This might be because the course has theory and practical components, or has different levels of difficulty. If the course contains many tests or quizzes, it can be confusing and difficult for students to quickly find the item they are after.

The new Tabs functionality is designed to make the layout and display of content easier for students to follow. This document will show how to setup tabs for your course shell.

6.2 Tutorial

Let us assume your course has tests, quizzes and assignments, covering both theoretical and practical aspect of the course. We already have 6 tests setup - The first three are theory, and the last three cover practical lab topics:

- Create two tabs called **Theory**, and **Practice**.
- Allocate tests 1-3, quizzes 1-2 and assignment 1 to **Theory**, and tests 4-6, quizzes 3-4, and assignment 2 to **Practice**.
• Select the **Tabs** option under the Course Admin Menu.

![Tab Option](image)

**Figure 62**: Tabs option under Course Admin menu.

• Click the **Add** button to display a single configuration screen containing fields for the tab label/title, description, and then selection boxes for tests, quizzes and assignments.

• Enter **Theory** in the Title field.

![Title Field](image)

**Figure 63**: Type Theory in the Title field.

• Select the **tests, quizzes and assignments** to link with Theory.

![Selection Boxes](image)

**Figure 64**: Select the tests, quizzes and assignments.

• Click **Save**. The tab definition is now created.

• Repeat the above procedure, but this time call the tab **Practice** and select all the tests, quizzes and assignments related to it.
● The Tabs page will be displayed.

![Available Tabs](image)

Figure 65: Available Tabs.

● **Drag and drop** the row to change the order in which the tabs are shown at the top of the page.

● **Student view** of Theory and Practice tabs with tests, quizzes and assignments.

![Student View](image)

Figure 66: Student view.

● **Click on the Practice tab** under Student View, to display only these tests.

![Student Practice tab](image)

Figure 67: Student Practice tab.
• Content that is not assigned to a specific tab is shown in a tab called Other. The Other tab will disappear automatically as soon as all content is fully assigned.

![Other tab](image)

**Figure 68: Other tab.**

**Assigning content to tabs from content create/edit pages**

It is possible to assign tests, quizzes and assignments to existing tabs in the respective creation/edit pages. On the test creation page, this option is shown on the second page: (this will only appear if tabs have previously been created)

If we were creating a new theory test, we would select Theory.

![Assigning content from content create/edit pages](image)

**Figure 69: Assigning content from content create/edit pages.**

That completes this tutorial.